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IS 12781 (1989): Marine Bucket for Sea Surface Temperature Measurement [PGD 21: Meteorological Instruments]

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IS 12781 : 1989

(Reaffirmed 2003)

Indian Standard

MARINE BUCKET FOR SEA SURFACE TEMPERATURE MEASUREMENT — SPECIFICATION

UDC 621·642·14 [629 12] : 536·5

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

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Price Group 2

Meteorological Instruments Sectional Committee, LMD 21

FOREWORD

This Indian Standard was adopted by Bureau of Indian Standards on 17 August 1989, after the draft finalized by Meteorological Instruments Sectional Committee had been approved by the Light Mechanical Engineering Division Council.

The measurement of sea surface temperature is of great importance in the field of marine meteorology. The most common method employed for this measurement is to collect a sample of sea surface water by means of a suitably designed canvas bucket. The bucket is lowered into the sea and allowed to trail along the ship on the water surface for a short time and then pulled up to the ship's deck. The temperature of the sample water thus collected from the sea surface is quickly measured by means of an accurate thermometer protected by a suitable metal sheath.

Specifications for marine bucket in use in the meteorological service in the country have been prepared by the India Meteorological Department, but no Indian Standard for this exists. With the increasing use of this instrument in the country, the formulation of an Indian Standard for marine buckets and their certification by BIS has become necessary. This standard has, therefore, been prepared in the interest of standardization of marine bucket to be manufactured and used in the country. The testing of all such instruments made in the country and their initial certification after manufacture, will, in future, be the sole responsibility of BIS.

In the formulation of this standard, due consideration has been given to the requirements laid down by the World Meteorological Organization, Geneva.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

MARINE BUCKET FOR SEA SURFACE TEMPERATURE MEASUREMENT — SPECIFICATION

1 SCOPE

1.1 This standard specifies the requirements for marine bucket for measuring the sea surface temperature.

2 DESCRIPTION

2.1 The bucket consists of a metal cylinder surrounded by a pair of canvas cloth covering, forming a double walled jacket, supported by two wooden discs at the top and bottom as shown in the general assembly drawing (Fig. 1). It has a spring loaded metal lid opening inward and a lead base-plate at the bottom. The bucket is supported by 3/4 equispaced nylon-rope sling tied together at the top and connected to a nylon rope about 10 m long. Suitable holes are provided at the bottom of the metal cylinder and on the canvas double wall, reinforced with brass eyelets for easy communication of water sample.

3 MATERIAL

3.1 The cylinder and the lid shall be made of 22 SWG (0·71 mm) brass sheet.

3.2 The base and top plate shall be made of good quality teak wood.

3.3 The canvas bag shall be made out of good quality canvas cloth about 1·5 mm thick.

3.4 The sinker plate at the bottom shall be made of lead, having approximate weight of about 0·75 kg.

3.5 The leather strap used around the top and bottom wooden plate shall be about 5 mm thick and 25 mm wide.

3.6 Nylon rope shall be of good quality having 15 mm diameter, 3-4 ply.

4 DIMENSIONS

4.1 Canvas bags shall have dimensions as shown in Fig. 2.

4.2 General arrangement and dimensions of the important components of the marine bucket shall be as shown in Fig. 1 to 4.

5 WORKMANSHIP AND FINISH

5.1 The canvas bags shall be made without any wrinkle so as to appear as a smooth cylinder.

5.2 The lid shall remain closed normally under the natural tension of the spring used.

5.3 The nylon rope sling shall be elegantly suspended and kept in position by means of two rubber strips fixed over the nylon ropes around the top and bottom wooden plates.

6 MARKING

6.1 Each marine bucket shall have the following information engraved legibly and neatly on a name plate screwed or cemented on the upper surface of the top wooden plate:

a) Name of the instrument : MARINE BUCKET

b) Manufacturer's name or recognised trade-mark, if any; and

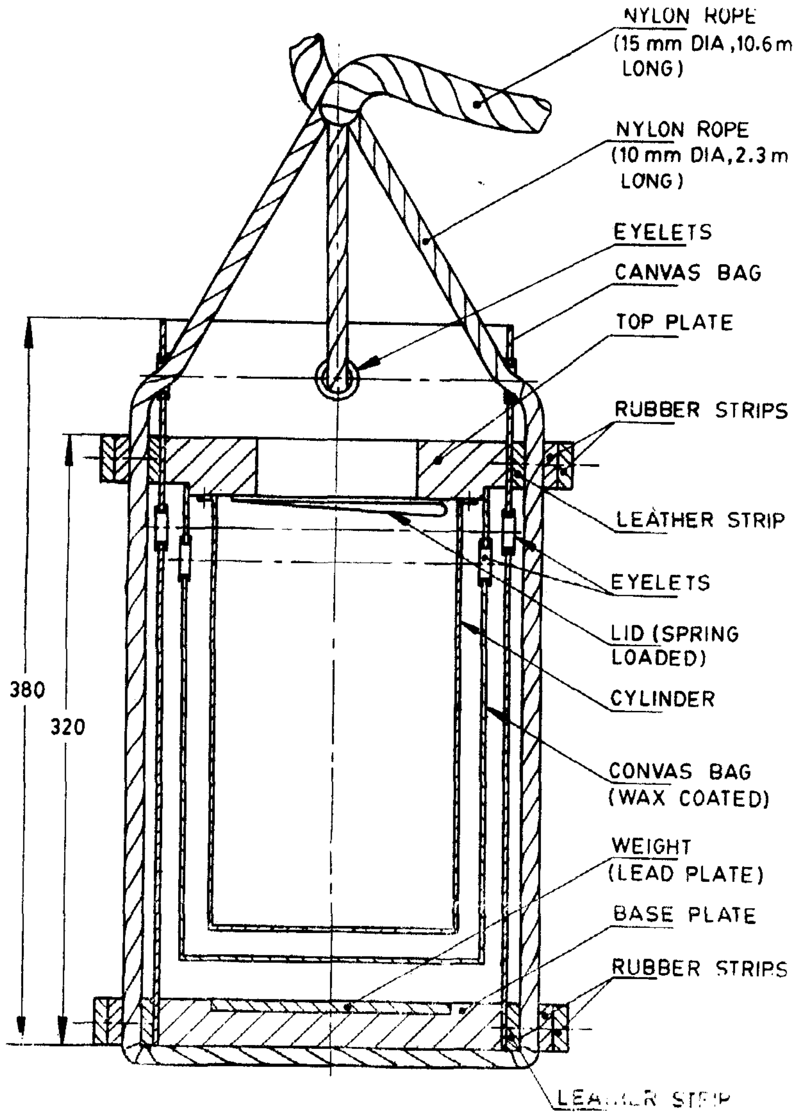
c) Serial number and year of manufacture.

7 PACKING

7.1 Each marine bucket shall be packed individually in a suitable packing case or as agreed to between the supplier and the purchaser.

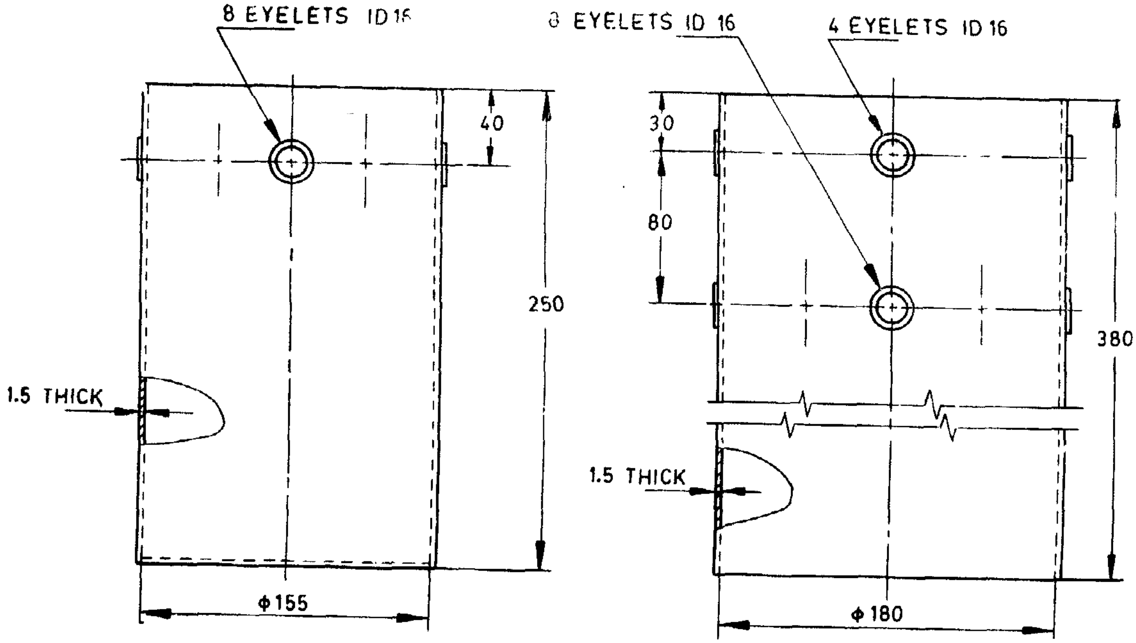
8 TEST AND INSPECTION

8.1 Each marine bucket shall be tested individually for conformity to all requirements of this specification.



All dimensions in millimetres.

Fig. 1 General Assembly of Marine Bucket



2A Wax Coated Canvas Bag

2B Canvas Bag

All dimensions in millimetres.

FIG. 2 CANVAS BAG

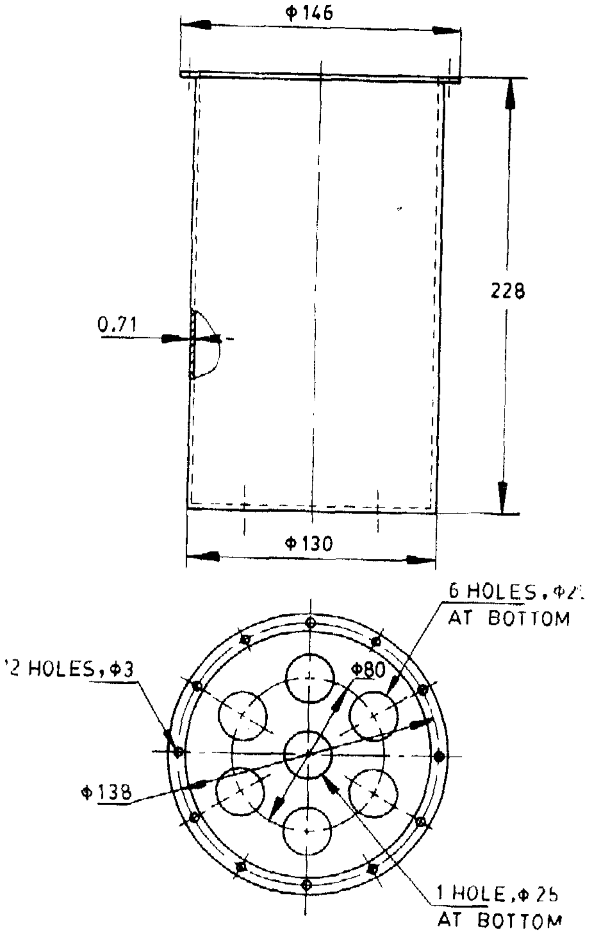


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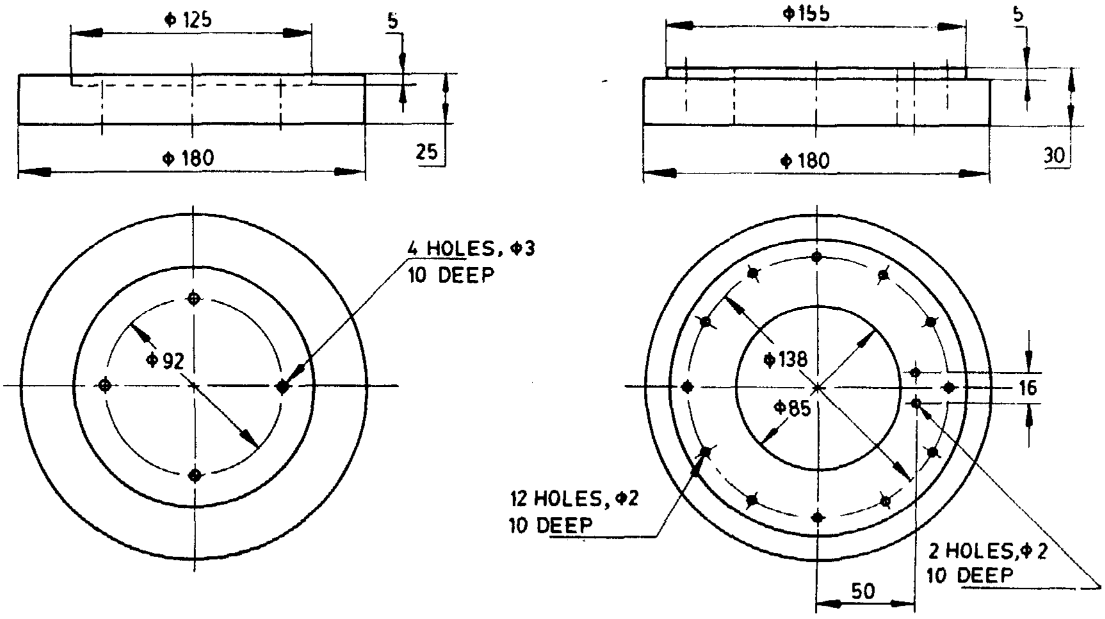
FIG. 3 DIMENSIONS OF CYLINDER



BASE PLATE TOP PLATE

All dimensions in millimetres.

FIG. 4 DIMENSIONS OF PLATES

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